

THE ROLE OF SOCIAL SUPPORT IN BREASTFEEDING EXPERIENCES  
AMONG RURAL WOMEN IN SOUTHERN APPALACHIA

A Thesis  
by  
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## **Abstract**

### THE ROLE OF SOCIAL SUPPORT IN BREASTFEEDING EXPERIENCES AMONG RURAL WOMEN IN SOUTHERN APPALACHIA

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*Objectives:* The objectives of this study are: 1) to describe breastfeeding experiences and level of social support received among WIC participants in southern Appalachia, 2) to examine perceived types and effectiveness of social support received including emotional, instrumental, informational, and appraisal.

*Design, Setting, and Participants:* Data was collected using a semi structured qualitative interview (n = 7). Breastfeeding and postpartum WIC participants were recruited to participate via the placement of flyers in three WIC clinics in western North Carolina. ASU IRB approved the study.

*Outcome Measures and Analysis:* A semi-structured interview was conducted to assess breastfeeding experiences, barriers, and level of support received. Interviews were transcribed verbatim. Grounded theory approach (Glaser, 1967) was applied and themes were organized as they emerged. Interviews were coded using Nvivo software (QSR International, 2013).

*Results:* Each interview lasted approximately one hour. The mean age was 29 and the average monthly income was \$1,723. Participants reported a high level of support from partners (e.g. husbands), professionals (e.g. lactation consultants and WIC), and the maternal grandmother of the infant. Commonly reported themes included receipt of professional support (11 mentions),

difficulty breastfeeding (13 mentions), and desire to breastfeed for health benefits and bonding (27 mentions).

*Conclusions and Implications:* The interview results indicated that even with strong social support, obstacles such as sexist social norms still exist for breastfeeding mothers. Professionals specializing in breastfeeding, such as WIC staff and lactation consultants, tended to be more helpful than other health professionals. Partners were a strong source of support for married mothers, and tended to have input on breastfeeding duration. Emotional, appraisal, and informational support were perceived as effective support for breastfeeding initiation and duration.

Keywords: social support, breastfeeding, WIC.

## **Dedication**

This thesis work is dedicated to my husband, Daniel, who has been a constant source of support and encouragement through the challenges of graduate school. I am truly thankful to have you in my life. I also dedicate this thesis to all mothers because no matter which infant feeding decision is best for them, they are an essential group of women in our society. My hope is to see a world with strong women's rights so that such intimate decisions can be made with less outside influences.

## **Acknowledgments**

I would first like to thank Dr. Lanae Ball of the department of Nutrition and Health Care Management at Appalachian State University. She always kept an open-door policy with me even after the many hours I spent in her office planning this project and manuscript. She constantly allowed this paper to be my own work but steered me in the right direction whenever she thought I needed it.

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## CHAPTER 1: LITERATURE REVIEW

### **Background and Literature Review**

Breastfeeding is well known to have many benefits for both mother and baby including maternal pregnancy weight loss, decreased maternal anxiety, reduced infant risk for some infectious diseases, diet related chronic disease, and high blood pressure for the entire lifespan of the infant.<sup>1-5</sup> Additionally, breast milk is widely recognized as the most valuable food source for infants from birth to six months. Smith et al found that premature weaning from breast milk increases the infant's risk for chronic disease later in life.<sup>5</sup> Increased breast feeding also improves bonding between mother and infant<sup>2</sup> and has been shown to have an impact on the dietary habits of children.<sup>3</sup> Therefore, exclusive breastfeeding could be influential in fighting childhood obesity.

A number of health organizations recommend breastfeeding for maternal and child health promotion. The American Academy of Pediatrics recommends breastfeeding for at least the first year of life.<sup>6</sup> The World Health Organization recommends breastfeeding exclusively for the first six months and continuing to breastfeed with use of complementary foods for at least two years of life.<sup>7</sup> The Healthy People 2020<sup>8</sup> objectives include increasing the number of infants receiving breast milk both exclusively and non-exclusively for the first 6 months. Healthy people 2020<sup>8</sup> goals for breastfeeding initiation and six month duration are 82% and 26%, respectively. Although health agencies make these recommendations, many women still do not breast feed their infants. The current national breastfeeding rates fall short of the Healthy People 2020 goals at 74% initiation and merely 14% exclusive breastfeeding at 6 months of life. Early breastfeeding cessation increases the infant's risk for chronic diseases in the future.

Mothers may stop breastfeeding early because they lack confidence in their breastfeeding ability or because they believe the infant enjoys formula more. Other causes for early cessation include discomfort, embarrassment, and the need for assistance.<sup>9</sup>

Disparities in breastfeeding rates are also seen across geographic location and ethnic groups. African Americans have the lowest rates of initiation, while Hispanics have some of the highest.<sup>10</sup> Studies have reported differences in breastfeeding rates between urban and rural areas, with rural areas suffering the greatest disparity.<sup>9</sup> The current rate of rural breastfeeding also falls short of goals with initiation at 55% and 18% exclusively breastfeeding for 6 months.<sup>9</sup> However these issues are often intertwined. Data from the Early Childhood Longitudinal Study-Birth Cohort, a nationally representative sample, indicates that differences in rural-urban breastfeeding initiation are based on ethnicity and poverty status.<sup>10</sup> This suggests that we need to evaluate how we approach the promotion of breastfeeding and minimize barriers to breastfeeding in both a culturally and geographically appropriate manner.

### *Policies to Promote Breastfeeding*

Breastfeeding has been a driver of many recent health and institutional policy efforts. Healthy People objectives call for an increase in both the number of live birth facilities that provide recommended care for lactating mothers and in the number of worksites that have lactation support programs.<sup>8</sup> The Baby Friendly Hospital Initiative, an international initiative set up by UNICEF and the World Health Organization, seeks to guarantee that all freestanding clinics and hospitals are sources of breastfeeding support.<sup>11</sup> A facility can be “baby friendly” only if it does not accept free or low cost formula or bottles. This initiative fosters practices for born infants and postpartum mothers that promote breastfeeding. Over 20,000 Baby-Friendly facilities exist worldwide but only 143 exist in the United States.<sup>11</sup>

In 2011, the United States Surgeon General released a Call to Action to Support Breastfeeding in hopes of shifting how we think and talk about breastfeeding.<sup>12</sup> In this call to action, twenty guidelines for supporting breastfeeding women were outlined. For example, families giving mothers the support they need to breastfeed their babies and including basic support for breastfeeding as a standard of care for midwives, obstetricians, family physicians, nurse practitioners, and pediatricians. Although the Call to Action mainly focused on policy changes for government agencies and programs, a societal approach including support for paid maternity leave for all women in the workforce was emphasized.<sup>12</sup>

#### *Factors Influencing Breastfeeding Decisions*

Social and economic determinants of health, including income, education, occupation, and neighborhood and community characteristics, play a greater role in health than individual behaviors.<sup>13</sup> A number of factors have been seen to influence breastfeeding decisions both positively and negatively. These include socioeconomic status, educational level, ethnicity, age, marital status, and employment status.<sup>13-16</sup> Some of these factors may negatively impact breastfeeding decisions and contribute to disparities in breastfeeding rates. Age, education level, prenatal education, and formal support have been positively associated with breastfeeding decisions in rural dwelling mothers.<sup>17</sup>

A mother's personal decision to breastfeed is the primary determinant of breastfeeding initiation and duration.<sup>16, 18</sup> Bai et al. explored the predictors of exclusive breastfeeding for the first six months by using the Theory of Planned Behavior. A strong positive correlation between intention to breastfeed and actual duration of exclusive breastfeeding was found. Attitudes and societal norms were most influential in this decision.<sup>18</sup>

Beyond a mother's initial decision to breastfeed, multiple factors can influence breastfeeding continuation and contribute to breastfeeding disparities. Young maternal age and

level of maternal education may predict breastfeeding behaviors. In the industrialized world, college educated women are more likely to initiate and continue breastfeeding.<sup>18,19</sup> A study evaluating the predictors of breastfeeding intention among low-income women in the United States found that women who intended to breastfeed were normally white, college educated, and high income. These women also had previous experience breastfeeding and fewer children than those who did not intend to breastfeed. Furthermore, intention to breastfeed resulted in higher levels of breastfeeding.<sup>19</sup>

### *Barriers to Breastfeeding*

Although policies exist to promote breastfeeding, women are not always fully supported and often still choose formula over breastmilk.<sup>12</sup> Aside from sociodemographic factors, barriers to breastfeeding documented in the literature include embarrassment and social stigma, time constraints, inadequate prenatal and postnatal services, and level of social support.<sup>19-23</sup> These barriers can undermine a mother's ability to successfully breastfeed, and directly impacts short and long-term health outcomes for infants.

### *Structural Support*

The institutions and communities in which women live and work can also influence individual breastfeeding decisions. These structural supports include places of work, neighborhoods, communities, and attitudes of society at large. Structural barriers are non-economic barriers within the environment or society. This includes societal norms and attitudes within one's community. For example, the United States remains one of the only industrialized nations without national paid maternity leave.<sup>24</sup> Addressing structural barriers to breastfeeding, such as worksites, has been a component of some recent health policy efforts but remains the largest barrier to breastfeeding support. Social stigma and negative societal norms

can also contribute to structural barriers. It is well documented that sexist attitudes are prevalent in Western society, and that the human breast has become hypersexualized.<sup>25</sup> Forbes et al found that sexism was one predictor of male students' attitudes toward women who breastfeed. These attitudes influence when and where women are able to breastfeed.<sup>26</sup>

The main reason mothers in Western societies choose formula instead of breast milk is convenience, though this is largely influenced by structural support barriers which make it inconvenient to breastfeed outside of the home.<sup>27</sup> Maternal employment has a negative impact on breastfeeding duration. Previous studies have shown that inflexible work schedules, constrained work environments, short maternity leave and working full-time are associated with breastfeeding cessation.<sup>23,28,29</sup> Women who work more than twenty hours per week in the United States, or who return to work early after giving birth, breastfeed for a shorter period of time than those who work less or have adequate maternity leave. Furthermore, unemployed mothers in the United States are three times more likely to breastfeed than employed mothers.<sup>24,28,30.</sup>

There is a marked lack of support in employment settings for low-income women. These job environments are often incompatible with breastfeeding, lacking facilities for pumping breast milk and time for mothers to take a break. A study with WIC participants found that low-income women anticipated substantial barriers for breastfeeding when they planned to combine breastfeeding while attending work or school.<sup>29</sup> Another study using data from the National Longitudinal Survey of Youth, argues that mothers who breastfeed for six months or longer suffer more severe and more prolonged earnings losses than do mothers who breastfed for shorter durations or not at all.<sup>24</sup>

Stratton et al. identified attitudes, beliefs, and intentions of employers regarding workplace breastfeeding support. They found that employers often had positive attitudes towards workplace breastfeeding support practices but felt that cost outweighed benefits of

implementing formal actions such as allowing breaks throughout the workday for pumping breastmilk or providing a breastpump or financial assistance with breastpump purchase for breastfeeding mothers.<sup>28</sup>

### *Social Support*

Another major barrier to breastfeeding in the United States is the lack of social support networks for breastfeeding mothers and their babies. Social support may be a key indicator of a mother's decision to breastfeed, and has been found to have direct positive effects on breastfeeding rates.<sup>19</sup> Social support, broadly defined as resources provided by others, is considered one of the mechanisms through which social networks are thought to impact health. Strong social support has been linked to reduced mortality, decreased risk of cardiovascular disease and diabetes, and better pregnancy outcomes for mothers.<sup>31,32</sup> Lack of support, coupled with sexist societal norms, can result in more women choosing formula despite the well-known short term and long term benefits of breastfeeding.<sup>12</sup> Research has shown that poor family and social support increase the likelihood of using formula.<sup>25</sup> Families could also be more supportive of formula if that's what other family members have done or if breastfeeding becomes difficult.

Social support falls into four distinct categories: (1) Emotional support providing love, trust, esteem, caring, and concern, (2) Instrumental support providing aid in kind, money, time, or help, (3) Informational support providing advice, directives, suggestions, and information for use with coping in environmental and personal problems, and (4) Appraisal support providing affirmation, feedback, and social comparison.<sup>33</sup> Strong social support has been shown to have protective effects on medical conditions such as improved disease management, low birth weight, arthritis, and depression.<sup>34</sup> Furthermore, social support has been shown to accelerate recovery, facilitate compliance with medical regimens and may decrease the amount of

medication needed. Interventions which increase formal or informal support are likely to increase breastfeeding initiation and duration.<sup>9</sup>

### *Familial and Peer Support Systems*

One key barrier to choosing breastfeeding involves poor family and social support. Family and friends influence the mothers feeding decisions as well as her prenatal feeding intentions. However, the feeding opinions of the infant's father and the feeding opinions of the infant's maternal grandmother are the strongest influences.<sup>35</sup> Often, the feeding opinions of friends and family carry more weight than the advice of a health professional.

Decisions regarding breastfeeding are influenced by immediate family members.<sup>36</sup> Partners are most often a primary source of support for new mothers.<sup>37-39</sup> Many studies focus on the role of fathers in influencing positive breastfeeding outcomes. A recent qualitative study in England explored couples' decision-making regarding infant feeding, along with individual views about the father's role in infant feeding decisions. Participants expressed that the role of the father was to support the breastfeeding mother, but that the mother was the primary decision maker regarding breastfeeding. Overall, fathers were viewed as a good source of support, and their encouragement was valued by mothers.<sup>38</sup>

Partners and other women in the family are the primary source of social support for low income mothers.<sup>15,40,41</sup> A study examining the intention to breastfeed among low income pregnant women revealed that breastfeeding intention was positively correlated with older maternal age, higher education, more breastfeeding experience, Hispanic ethnicity, and hearing about breastfeeding benefits from family members, the baby's father, and lactation consultants. A positive association was not found for other health professionals. The attitudes of health professionals were viewed as less influential on women's breastfeeding decisions than members of women's social support networks.<sup>15,42</sup>

Maternal grandmothers are often cited as important sources of peer support, along with friends.<sup>42,43</sup> Studies indicate that the inclusion of support from a lay person, such as a friend, significantly increased the odds of breastfeeding.<sup>44,45</sup> One study concluded that 57% of women considered this type of support to be important, and an additional 10% found it to be extremely important.<sup>30</sup> Exposure to other women breastfeeding, particularly for young mothers, also increases the likelihood that women will choose breastfeeding for their infant.<sup>46, 47</sup>

### *Professional Support and WIC*

Breastfeeding decisions are made in early pregnancy, or even prior to conception, and most often before contact with health professionals.<sup>48,49</sup> Prenatal care clinics are often the first point of contact for mothers to receive formal breastfeeding support. Throughout the duration of pregnancy, mothers may receive professional support from primary care doctors, lactation consultants, and health educators. Hospitals and birthing centers become additional sources of professional support during delivery and directly after birth, while postnatal care clinics facilitate support in early infancy. These initial contacts are important, as evidence shows that leveraging professional support positively influences breastfeeding initiation and duration rates.<sup>50</sup>

There is a lack of formal and professional support stemming from inadequate professional training in the area of lactation among healthcare professionals.<sup>34</sup> Some studies revealed that women felt least supported by their healthcare team in comparison to other types of social support.<sup>15, 51, 52</sup> It is critical that healthcare professionals are knowledgeable regarding breastfeeding because many community members look to them for guidance. Traditional dietetics and other healthcare professional training programs have not incorporated training in lactation support and therefore, many healthcare professionals have insufficient training concerning lactation and breastfeeding.<sup>53</sup> Less than optimal interaction with childbirth

educators result in reduce the incident of breastfeeding initiation and duration.<sup>54</sup> The consequence of inadequate training includes inappropriate management of lactation and a medical bias concerning formula use when breastfeeding problems arise.

Lactation consultants can facilitate hands on training for new mothers. The number of lactation consultants has grown over the years in order to fill in gap in support that other health professionals are unable to provide.<sup>55</sup> One study concluded that primary care and pediatric settings that offer lactation consulting services may provide the most optimal continuous breastfeeding support.<sup>56</sup> One program that offers lactation education and consulting services for low-income mothers is the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Because WIC reaches such a large percentage of US infants, its impacts should be continually researched in order to make possible improvements and keep the positive aspects of this national program intact.

WIC peer counselors speak to all women about breastfeeding during their first WIC appointment.<sup>57</sup> Typically the peer counselors have participated in WIC and have had positive experiences with breastfeeding. Campbell et al. found that primiparas, or mothers with one child, and women who did not breastfeed with previous children were more likely to breastfeed with support from WIC's peer counselors. Peer counselors offer emotional, informational, and appraisal support to breastfeeding mothers.<sup>57</sup>

Metallinos-Katsaras et al. found that WIC improved breastfeeding rates across the state of Massachusetts.<sup>58</sup> Sixty-one percent of mothers sampled initiated breastfeeding. However that number decreased to 59% by the first week post-partum. This initiation rate is higher than the national average of 55% but does not quite meet Healthy People 2020 goals of 82%. Women who entered WIC during the prenatal period were 12-18% more likely to breastfeed and had longer durations than those who entered post-partum. Duration was increased significantly

among women who entered WIC earlier in pregnancy. There is a positive association between duration of exposure to WIC services and initiation and duration of breastfeeding.

Novel approaches to facilitating social support are also warranted. One emerging trend in targeting peer support is social media. The USDA social marketing “Loving Support” campaign is one example of health promotion targeted to friends and family who may influence breastfeeding mothers in the WIC program.<sup>59</sup> These types of approaches may be especially useful among low-income populations, as the vast majority of WIC participants have mobile devices and are accessing social media.

### *Gaps in the Literature*

Although various elements of social support and breastfeeding decisions have been widely researched, there remain a number of gaps that must be addressed to understand the best approaches to support mothers and infants. Support, both actual and perceived, has been identified as a significant contributor to positive breastfeeding outcomes, but further research is needed to identify the aspects of support that are the most effective. More research is also needed to determine how to best strengthen these social supports. Little is known about the significance of the timing of breastfeeding support or women’s levels of satisfaction with the provided support.

Overall, the evidence suggests that social support networks are influential during pregnancy. Pregnant and lactating women need the support of family members, friends, and health professionals. However, little is known about the role social support plays in influencing breastfeeding decisions among low-income, rural mothers, in particular. Smaller qualitative studies could help to contextualize the complex barriers regarding breastfeeding. Future research would also benefit from examining these associations by region, or ensuring inclusiveness of both urban and rural participants. More research is also needed to explore

breastfeeding durations and specific reasons for breastfeeding discontinuation among different rural and urban locations in the United States.

A better understanding of the barriers in social support related to breastfeeding may help develop interventions to increase breastfeeding rates and have a long term impact on the quality of life of rural dwelling individuals. Furthermore, increasing breastfeeding rates in lower socioeconomic and rural areas would have considerable impact upon public health and contribute to lower health care costs. Public policy initiatives should focus on and support breastfeeding as a normal and common practice for all women and children, regardless of socioeconomic status or geographic location. However, a significant knowledge gap remains concerning rural, breastfeeding mothers and more research is needed to better understand barriers to breastfeeding initiation and duration among this group. The objectives of the present study was to examine perceived types of social support received by rural mothers including emotional, instrumental, informational, and appraisal, to examine the level and effectiveness of support received in the professional setting (WIC), and to explore barriers including formal (i.e professional) and informal (e.g peers) barriers to breastfeeding among low income rural mothers residing in Southern Appalachia.

## Chapter 2: Manuscript

### Introduction

Breastfeeding is well known to have many benefits for both mother and infant including maternal pregnancy weight loss, decreased maternal anxiety, reduced infant risk for some infectious diseases, diet related chronic diseases and high blood pressure for the entire lifespan of the infant.<sup>1-3,5</sup> Healthy People 2020 goals for breastfeeding initiation and 6 month duration are 82% and 26%, respectively.<sup>8</sup> The current national breastfeeding rates fall short at 74% initiation and 14% exclusive breastfeeding at 6 months of life.

Disparities in these rates are seen across geographic location. Women living in urban areas are more likely to breastfeed compared to their rural dwelling counterparts.<sup>9</sup> Rural residents tend to have higher rates of chronic health conditions, disability, and mortality compared to urban residents. Some women in the rural population do not consider breastfeeding as an option and early cessation of breastfeeding may be caused by discomfort, embarrassment, and the need for assistance.<sup>60,61</sup>

There are some significant barriers in both structural and support systems that can result in breastfeeding deterrence such as issues with breastfeeding in public and lack of social support. For example, returning to work decreases rates of breastfeeding initiation and duration.<sup>60</sup> Research has shown that sexist social norms and poor family and social support increase the likelihood of using formula.<sup>25</sup> Women who breastfeed may need to overcome these social barriers along with many more in the workplace and in public. Social support, defined as resources provided by others, is considered one of the mechanisms through which social networks are thought to impact health including better pregnancy outcomes for mothers.<sup>31</sup> Social support falls into four distinct categories: (1) Emotional support providing love, trust, esteem, caring, and concern, (2) Instrumental support providing aid in kind, money, time, or help, (3) Informational support providing advice, directives, suggestions, and information for

use with coping in environmental and personal problems, and (4) Appraisal support providing affirmation, feedback, and social comparison.<sup>33</sup>

Mothers living in rural areas have additional structural barriers to overcome. For example, rural dwellers can experience lack of access to healthcare and professional support.<sup>17</sup> The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a key source of professional support among rural and low-income women. Although WIC has a strong breastfeeding promotion program, it distributes more than half of formula used in the United States.<sup>62</sup> Women who are eligible for WIC tend to be less likely to breastfeed because it is a less common practice among low income, less educated women, in general.<sup>62</sup> There is a gap in research investigating the relationship between WIC, social support, and rural populations.

The overall goal of this study was to describe breastfeeding experiences and level of social support received among low-income rural mothers residing in southern Appalachia. Various types of social support, including familial, informational, and professional, were investigated in order to explore barriers between formal and informal sources of social support.

### *Specific Aims and Research Questions*

The specific aims and research questions were:

1. To describe breastfeeding experiences, including initial decision and level of social support received among low-income rural mothers residing in Southern Appalachia.
  - What are the breastfeeding experiences and level of social support received among low-income rural mothers residing in southern Appalachia?
  
2. To examine perceived types of social support received by rural mothers including emotional, instrumental, informational, and appraisal.
  - What types of social support are received by rural mothers?

3. To examine the level and effectiveness of support received in the professional setting (WIC).
  - Is WIC effective at providing support to mothers who wish to breastfeed?
4. To explore barriers including formal (i.e professional) and informal (e.g peers) barriers to breastfeeding among low income rural mothers residing in southern Appalachia.
  - What formal and informal barriers are present among low income rural mothers residing in southern Appalachia?

## **Methods**

### *Research Design*

This study was approved by the Appalachian State University Institutional Review Board. Data was collected using a semi structured qualitative interview. The interview was organized into the following four sections: 1) socio-demographic info, 2) breastfeeding experiences and behaviors, 3) general barriers to breastfeeding, and 4) and level of support received as measured by the validated 2005 NHANES Social Support Questionnaire (NHANES SSQ, 2007).<sup>63</sup> Interviews were conducted in a private area of the local health department/WIC clinic or in the participant's private homes. Each interview lasted approximately one hour.

### *Subjects and Recruitment*

Purposive convenience sampling technique was used to recruit participants (n = 7). Participants were recruited via the placement of flyers in WIC clinics in Ashe, Watauga, and Caldwell Counties, North Carolina. Contact information for the lead researcher was provided on the flyer in order for participants to call and/or email to schedule an interview. Eligibility to

participate in this study included 1) breastfeeding and postpartum women who had experience breastfeeding, 2) participation in WIC, 3) over the age of 18, and 4) English speaking. Informed consent was collected from every participant before the interview process began. A \$25 incentive was provided upon completion of the interview.

### *Data Analysis*

Interviews were audio recorded and transcribed verbatim. Grounded theory approach<sup>64</sup> was applied and themes were organized as they emerged. Themes were confirmed, rejected, or modified with study progression by a team of three researchers. Interviews were coded using Nvivo software, (QSR International, 2013), and all three investigators confirmed codes until a consensus was reached. Frequency counts and percentages were performed on all demographic data using Excel.

NHANES Social Support Scale was used to measure the level of social support received among the participants. Each question on the scale was coded as an affirmative or negative response (e.g. yes=1, no= 0). A subscale with a score of 0-12 was developed to categorize the level of social support, with 0 indicating no social support and 12 indicating the highest level. The scale included the following categories: 0-3 low level of social support, 4-8 moderate level of social support, and 9-12 high level of social support. Scores for each participant were tallied in order to calculate the social support score.

## **Results**

All participants reported having sought and received support from friends, family, and/or professionals. All participants received moderate, (scoring 5-8), or high (scoring 9-12) levels of social support according to the NHANES questionnaire.

*Participant Demographics*

Table 1 shows a breakdown of the demographics of participants.

Table 1: Descriptive Characteristics of Participants

Participant	State of Residence	Marital Status	Length of Breastfeeding Duration at Point of Interview	Number of Household Members	Mother health insurance	Infant health insurance
001	TN	Married	6 months	4	Yes	Yes
002	NC	Single	11 days	4	Yes	Yes
003	NC	Married	13 months	4	Yes	Yes
004	NC	Married	15 months	5	Yes	Yes
005	NC	Married	5 months	4	No	Yes
006	NC	Married	9 months	4	Yes	Yes
007	NC	Married	20 months	4	Yes	Yes

The average age of participants was 29 with a range of 26 to 32. The median monthly income was \$880. Fifty seven percent of participants earned a college degree. Over half of participants worked at least part time and 85% percent of participants were married. The average weight of the participants' babies at birth was 8 pounds and 10 ounces. All babies were covered by medical insurance at the time of interview. However, not all mothers had medical insurance. Seventy one percent of participants reported health problems, mostly thyroid

related. Most mothers planned to breastfeed for two years with some planning to breastfeed indefinitely.

### *WIC Participation*

All study participants were enrolled in the WIC program. WIC packages are offered to postpartum women, infants, and children under five years of age. As reported by participants and verified with North Carolina WIC Program guidelines, mothers receive juice, milk, cereal, eggs, whole wheat bread, legumes, peanut butter, cheese, and a \$10 fresh produce allotment in their WIC package. Children ages one through five receive a package with the same items in smaller quantities. Pregnant and breastfeeding mothers are allotted higher quantities in their package than mothers who formula feed, due to increased nutrition needs. Infants who are fully breastfed start receiving a WIC package at 6 months of age. This package contains infant meats, infant cereals, and infant fruits and vegetables. Infants who are fully formula fed or partially breastfed also receive formula in their package. WIC encourages breastfeeding for benefits to mother and baby. They also encourage breastfeeding because formula is WIC's largest expense.<sup>62</sup> The money that WIC saves on formula is given back to the mother in the form of vouchers. The package for a fully breastfeeding mother is a \$65 value compared to \$50 and \$40 values for partially breastfeeding and formula feeding mother packages.

### *Initial Decision and Perceived Benefits*

All participants had intended to breastfeed before giving birth. Mothers stated their initial decision to breastfeed was due to the known benefits for both mother and infant. Commonly reported themes regarding initial decisions included lower risk of breast cancer (3 mentions), improves infant immunity (7 mentions), trendiness (2 mentions), and postpartum weight loss (4 mentions).

### *Health Benefits for Infant*

An increase in the infants' health and immune function was the most mentioned perceived benefit. Mothers often made the initial decision to breastfeed due to this health benefit for the baby. Some mothers learned more after they made their initial decision:

"I definitely didn't know as much of the benefits when I first made that decision but I mean just because it's natural and what my body would do when I mean of course I had heard on a basic level that it was the healthiest and I figured."

One mother thought the health benefits of breastfeeding led to a speedy recovery:

"...over Christmas he actually got sick and had to go to Vanderbilt hospital because they didn't know what was you know. He was only 6 weeks old. And I think the breastfeeding helped him as far as getting better. I mean they usually keep them there for four days as infants and he was out on the second day. He just got better a lot quicker and I think it was the breastfeeding that helped."

### *Health Benefits for Mother*

In addition to the health benefits for the infant, benefits for the mother were another reason for choosing breastfeeding (5 mentions). Benefits mentioned included reduced risk of cancers, postpartum weight loss, and uterus returning to its normal size.

"It reduces my risk of breast cancer. The percentage, I can't remember at this moment but I know it does reduce my risk of getting breast cancer later on in life. I lose weight faster, my uterus can return to its normal size quicker"

Weight loss (4 mentions), or lack thereof (1 mention), was another benefit brought up by participants. Some women tended to lose weight especially at the beginning of starting to breastfeed. Others did not experience weight loss to the extent they had expected to and one did not experience any weight loss at all.

“...everybody tells you “oh it’ll help you um, you’ll gain a little or lose a little extra weight!” And I know it’s probably not that much but I was gonna try it anyway. ‘Cause I thought well when I got pregnant with [my baby] I was in the process of losing weight and I had not gotten down to where I thought I needed to be and it was like oh I’m pregnant now! And I was nervous about gestational diabetes because of my weight...”

### *Bonding*

Every participant mentioned bonding (7 mentions). Sometimes bonding also gave the participant a feeling of empowerment:

“...enjoy having that time because nobody else can- he’s my kid I don’t know what I’m going to have anymore so I want to be able to have that time with him.”

This mother also thought it was trendy because it’s more natural than formula feeding:

“Now it’s the thing to do and you know you hear about the bonding experience and all that so and it’s supposed to be healthy. Well that’s horrible to say ‘cause people that use formula hate when you say that but it’s the most natural way to do it so.”

### *Overall Breastfeeding Experiences (Difficulties and Enjoyments)*

Commonly reported themes included a sense of empowerment (3 mentions), preference not to breastfeed in public (3 mentions), receiving free formula (9 mentions) sexist social norms (11 mentions), support from society (2 mentions), breastfeeding in the bathroom (2 mentions), trouble latching (2 mentions), and social media (6 mentions).

Multiple mothers touched on a feeling of empowerment. Mothers felt a sense of empowerment because they were the only ones who could provide their babies with the nourishment they needed.

“And just knowing that me as a mom, I’m the only one that can do that. And that I can comfort them whenever they are hurting or something or they’re unable to sleep. It was just a warm tingly sensation inside me that’s for only me, as a mom.”

*Support from Social Media (Appraisal Support)*

Mothers used a variety of social media outlets for gathering information. Sources such as Facebook, Instagram, Pinterest, and Kelly Mom were used. Some participants mentioned feeling a sense of comradery (2 mentions). This mom found a source of support through social media.

“...there’s this whole community that if you can find out of breastfeeding people and there’s those who really love it and it’s just so hard and super um positive about it and you just we click even though we click even though we come from different socioeconomic classes or races or whatever we just all kind of have that bond and it’s beautiful.”

This mother tries to find support when talking with other breastfeeding mothers both in person and online.

“...what my husband calls a support group. Anyplace I talk to someone I start a support group haha. But um, yeah I do feel cause I’ve experienced I know what that’s like.”

While mothers sought information and support through social media, some sexism was experienced through these online sources.

“Because I do see it in social media and I have seen videos, negative videos of people just putting down mothers that you know, that like if a mother is nursing. I did see one instance where a mother was nursing at a park and this one lady was walking, just happened to walk by in front and she had her husband with her and she just started you know, talk-yelling at this mom. You know ‘why are you doing this? This is in public. If

that's something you're gonna do that, you need to do it in the privacy in your own home' And your child needs to eat, you know, that's the way I look at it."

### *Free Formula*

Mothers often received free formula despite their decision to breastfeed. This can quickly reverse a new mothers' decision to breastfeed, even with strong intentions. Some mothers received free formula in the mail.

"We received it in the mail I remember that and I have no idea how ha-ha. Just appeared in our mailbox one day."

Other moms received formula in breastfeeding supplies from their doctors' office.

"I received a uh like a breastfeeding packet and in the packet it had prenatal vitamins for during pregnancy and then it had breastfeeding vitamins after pregnancy and there was a little packet it was like a really cute print almost like a makeup carrier that had the vitamins in it and um then liquid formula and some powder formula."

### *Professional Support Received*

Professional support was received from breastfeeding professionals (i.e lactation consultants, peer counselors, etc.) (7 mentions), nurses (2 mentions), physicians (3 mentions), nurses (2 mentions), and midwives (1 mention). Although one woman saw a lactation consultant at the hospital, typically the breastfeeding specialists utilized were through the WIC program. Participants rated their professional support as high on a Likert scale with a rating of 4.6 out of 5.

While most encounters with healthcare professionals enhanced breastfeeding support, some mentioned a lack thereof.

“...when [my baby] was not gaining weight, he did not get back to his birth weight until he was 3 or 4 weeks old. Which they wanted him back up to birth weight by the second week. Is it the second or first week? It was either the first or second week but he was not up until third or fourth week. But one of the pediatricians was like he’s gotta go on formula. Which is very insensitive. He was not [my baby’s] regular doctor. But he was kinda fillin’ in for her. He’s been practicing for Lord, he was a pediatrician when I was a kid! So he’s been practicing for like 80 years or something. I don’t know! Ha-ha! Just very insensitive. That I mean it really hurt my feelings and when I did see [my baby’s] doctor again I told her I said I didn’t appreciate him just kind of trying to throw it at me. Well I guess you can’t breastfeed. Here’s some formula.”

*Support from WIC (Instrumental, Informational, and Appraisal Support)*

WIC encourages breastfeeding and provides professional support in the form of a lactation peer counselor or lactation consultant to help mothers with initiation and duration. Some WIC participants used technology to receive support from their lactation peer counselor.

“But if you’re breastfeeding they can text you any day or night. And I definitely took advantage of that. There were so many long text messages where I was like ‘This is it, I’m done! I’m not breastfeeding anymore!’ She just said ‘I really think you can make this milk’ and she just kept encouraging me. She never said ‘Well if that’s what you wanna do, go ahead.’ She just kept saying ‘I really think that you can make this milk’. She just kept encouraging me.”

This mother rated her peer counselor from WIC as the person who gave her the most support with breastfeeding.

“I can just send her a text message or vice versa and with [my peer counselor from WIC] it was um in the beginning as soon as I got out of the hospital he had lost too much

weight, my milk hadn't letdown or came in and we came I had a C-section on Friday and then we came on the following Monday and it still hadn't come in and on that Monday afternoon when we came home she gave him just a little bit like I think it was like point two five milliliters or something like that or formula and you could just tell he was just a completely different baby after he ate that. Well that night, you're probably gonna think this is crazy cause I had no clue about anything, but he was in the bassinet in here and my husband was in the recliner and I had been layin' on the sofa and I had to go pee and I walked in to the bathroom to pee and I guess when I shut the door, I woke him up, the baby and he screamed while I was sitting on the toilet and my milk just came out and I was like oh my gosh and I thought I needed to save it so then I'm like holding it in my hand... I immediately after I left the doctor's office I called [my peer counselor]"

WIC was mentioned as a strong source of support when one mother needed to provoke breastfeeding rights in her place of work.

"Um, my husband has been a strong advocate of whatever I want or need I get in this so he's been great, um, my WIC counselors with the breastfeeding like peer counselor, my midwives at first were perfect with helping..."

#### *Support from Partners (Emotional Support)*

Six participants were married and five of those mentioned their spouse as a strong source of social support. Support from partners was highly rated as 4.7 out of 5 on a Likert scale.

"...my husband has been a strong advocate of whatever I want or need, I get..."

Husbands were a determining factor for the duration of breastfeeding. One participant stated duration was determined by her husband.

“...my husband said that I could go to till whenever I wanted to and then he said half a year like six months but now that it’s a month away I’m kind of scared of it and I’m scared of it in the aspect of drying my milk up um he’s starting to eat like whole foods now or like you know baby food and last night he ate about half a container well last night I didn’t pump or anything I went to bed and I leaked all over the bed so I’m not as far as that goes I’m scared of that aspect of it.”

*Support from Other Friends and Family (Emotional and Appraisal Support)*

Friends and family strongly influenced the social support in breastfeeding mothers. Support was received from sisters (2 mentions), parents (usually particularly mothers) (2 mentions), extended family (2 mentions) and friends (3 mentions).

“Well I have aunts actually who breastfed um one aunt in particular she has seven children, all breastfed so she was I would say a big factor in that”

One participant found strong support through a family member who was also breastfeeding and nursed her baby when she was having trouble producing enough milk.

“Around December, around Christmas. So he was probably about 8 weeks old. So probably between 5 and 8 weeks. And anytime she would come over she’d say “I can nurse him if you want me to.” And I was like “Ok” but I’m telling you what, that was the sweetest thing ever because I wouldn’t normally do that if it was just anybody but I know that...she doesn’t do drugs, she doesn’t drink...”

While many sought support from family members, support was not always received from family (5 mentions). This mother received financial support rather than emotional support from her family.

“Well she wasn’t completely unsupportive because she bought me my breast pump, she bought me my nipple cream. It’s like she’s gotten me things to do it but because I wasn’t

as productive as someone who would fully breastfeed, it was verbal. I don't know it was kinda weird. But that's why I said no. She wasn't completely unsupportive but just not the kind I needed. Not the emotional support of it I guess. Cause yeah she bought me a breast pump and that's not cheap."

This mother did not receive support from family for the full duration that she sought to breastfeed her children.

"I have family members, older family members who for a month now have been talking about you know weaning him so that could certainly make it harder, the lack of support even in your own little circle."

The most support was received from WIC's breastfeeding peer counselors and from partners of breastfeeding women. Overall, mothers enjoyed breastfeeding their children. They enjoyed the sense of empowerment it gave them, the bonding experience with their children, and the perceived health benefits.

## **Discussion**

This study explored the breastfeeding experiences and level of social support received among low-income rural mothers residing in southern Appalachia. Similar to previous research, the findings demonstrate maternal weight loss, infant immunity benefits, and decreased maternal anxiety. Participants mentioned weight loss with breastfeeding, stress relief through bonding, and minimal doctor and hospital visits as well as speedy recoveries for the breastfed infant. Mothers mentioned receiving all 4 types of social support. Mothers received emotional support from partners, friends, and family. Instrumental support was received via the WIC program in the form of grocery vouchers and breast pumps. Informational support was received through WIC's breastfeeding peer counselor program, family members, and health

care practitioners (i.e. physicians, nurses, midwives, etc.). Appraisal support was received through WIC's breastfeeding peer counselor program as well as family, and friends.

Women in the present study mentioned a dislike for breastfeeding in public due to sexist social norms. This finding is similar to Acker<sup>25</sup> et al's finding that women were often discouraged from breastfeeding in public due to unfamiliarity and the hyper-sexualized human breast. In the present study, sexist social norms were not only prevalent in public nursing situations; they were also prevalent in social media.

Dobson<sup>53</sup> pointed out that health care providers who do not specialize in lactation may have inadequate training in breastfeeding and could therefore push mothers to use formula. Participants mentioned lack of support from healthcare professionals. Participants were often given free formula from healthcare providers despite their decision to breastfeed. Participants stated strong support from breastfeeding professionals through the WIC program. This finding aligns with that of previous research.<sup>57, 58</sup>

#### *Study Limitations and Directions for Future Research*

The strengths and limitations of this study are worth noting and thus raise areas for future research. While data saturation was present, the sample size was small (n = 7) though this study is an important first step in documenting the breastfeeding experiences of mothers in southern Appalachia. Thus, this study is not generalizable to all breastfeeding mothers in rural locations. Future research is needed on this topic with a larger and more diverse sample of breastfeeding mothers in rural areas.

Second, using flyers as a recruitment strategy was not the most effective method in gathering subjects to participate in the study. A better alternative would be to recruit mothers directly at WIC clinics by attending breastfeeding classes/workshops or to leverage social media. Future researchers may want to consider a different sampling technique.

## **Conclusions and Implications**

The short term goal of this project is to bridge research gaps in order to further understand the barriers for breastfeeding among rural mothers. Therefore, effective interventions to support these mothers and attempt to increase breastfeeding rates can be planned and implemented. Long term, higher rates of breastfeeding will decrease economic costs as well as improve overall health outcomes later in life among the rural dwelling population.

The interview results indicated that even with strong social support, obstacles such as sexist social norms still exist for breastfeeding mothers. Professionals specializing in breastfeeding, such as WIC staff and lactation consultants, tended to be more helpful than other health professionals. Participants preferred not to breastfeed in public, suggesting a strong negative stigma. Partners were a strong source of support for married mothers, and tended to have input on breastfeeding duration. Mothers enjoyed feeling a sense of empowerment and sharing bonding time with their baby.

Little is understood about the role social support plays in influencing breastfeeding decisions among WIC participants in rural Appalachia. A better understanding of the barriers in social support related to breastfeeding may help design interventions to increase breastfeeding rates in rural areas. Improved health outcomes for the lifespan of the infant will follow an increase in breastfeeding rates. This could be vital for improving the lives of a rural population with less access to healthcare.

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